

	Pennsylvania State Fire Academy	
	717.248.1115 In PA: 1.800.459.4096	1150 Riverside Drive Lewistown, PA 17044-1979
	FAX 717.248.3580	www.osfc.state.pa.us
Minimum Standard for Accreditation (MSA)		

Date: October 18, 2014
Last Revision: ----, --, ----

Course Title: Fire Dynamics: Fundamentals

SFA Course Code: FDF

Course Length: 3 Hours **Lecture/Lab Breakdown:** 3/0

Prerequisites: Exterior Firefighter (ELEF)

Referenced Text(s): None

Course Goal: Upon completion of the course, the student shall understand the newly revised evidence based research related to the study of fire dynamics; how fires start, spread and develop in the modern fire environment.

Course Description: The course provides the firefighter the basic knowledge to reinforce the evidence based research conducted by Underwriters Laboratories (UL), National Institute of Standards and Technology (NIST), Alcohol Tobacco and Firearms (ATF) and other fire service organizations. This course introduces new terminology related to fire dynamics, legacy verse modern fuel loads, new construction techniques, flow paths, door control, and ventilation that all impact fire ground operations.

Description of Methodology: Combination of lecture with video presented by guided discussion.

Student Equipment & Supplies: Student note taking material

Equipment/Audiovisual/Facility/Supply Requirements:

1. Classroom setup with seating, computer, projection equipment with screen
2. One copy of Instructor Manual and PowerPoint Presentation (CD/thumb drive)
3. One copy of Student Handout on terminology for each student (recommended)

Special Notes & Conditions: None

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Course Outline

<u>Time (minutes)</u>	<u>Topic</u>	<u>Notes</u>
0:15	Introduction: Paperwork, Instructors, Students	
0:45	Lesson 1: Fundamentals of Fire Dynamics	
1:00	Lesson 2: Fire Dynamics Changes Fire Behavior	
0:45	Lesson 3: Smoke and Flow Paths	
0:15	Conclusion: Questions and Answers	

Competency Evaluation Mechanism: Instructor assessment of student responses during periodic questioning.

Learning Outcomes (Behavioral Objectives):

1. Understand the practical study of how fires start, spread and develop based on science, research and engineering that all influence behavior of fire.
2. Understand the changing “fire formula” of modern homes, fuel loads and modern construction techniques.
3. Understand new terminology specific to flow paths and ventilation
4. Improve firefighter situational awareness based on studying fire dynamics

Questions/Comments: Please contact the Assistant State Fire Academy Administrator